R E P O R T R E S U M E S

ED 013 172

RC 001 764

EDUCATIONAL ACHIEVEMENT AND THE NAVAJO.

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EDRS PRICE MF-$0.25 HC-$0.60 15P.

PUB DATE 8 SEP 67

DESCRIPTORS- *ACADEMIC ACHIEVEMENT, ACHIEVEMENT, ANXIETY, AMERICAN CULTURE, CONCEPT FORMATION, DORMITORIES, INTELLIGENCE, INTERACTION, INTERVIEWS, INSTRUCTIONAL PROGRAM DIVISIONS, MOTIVATION, *NAVAHO, PEER GROUPS, READING ABILITY, *STUDENTS, SELF CONCEPT, STANDARDIZED TESTS, *SECONDARY SCHOOLS, *TESTING, VERBAL DEVELOPMENT, BUREAU OF INDIAN AFFAIRS, UTAH, NAVAHO BORDERTOWN DORMITORY PROGRAM

A STUDY WAS DEVISED TO APPRAISE THE ACADEMIC ACHIEVEMENT OF NAVAJO STUDENTS LIVING IN DORMITORIES AWAY FROM THE INDIAN RESERVATION. THE FOLLOWING SEVEN FACTORS WERE CHOSEN TO BE INVESTIGATED AS BEING DIRECTLY RELATED TO ACHIEVEMENT--(1) INTELLIGENCE, (2) READING ABILITY, (3) ANXIETY, (4) SELF-CONCEPT, (5) MOTIVATION, (6) VERBAL DEVELOPMENT, (7) INTERACTION WITH THE AMERICAN CULTURE. INTERVIEWS WERE USED TO TEST THE INTERACTION WITH AMERICAN CULTURE, AND STANDARDIZED TESTS WERE ADMINISTERED IN TESTING THE OTHER FACTORS. SUBJECTS IN THE STUDY INCLUDED 97 NAVAJO STUDENTS AND 848 NON-NAVAJO STUDENTS IN INSTRUCTIONAL PROGRAM DIVISIONS SEVEN THROUGH TWELVE IN FOUR SECONDARY SCHOOLS. NAVAJO STUDENTS SCORED SIGNIFICANTLY LOWER THAN NON-NAVAJO STUDENTS ON MEASURES OF INTELLIGENCE, SELF-CONCEPT, AND MOTIVATION, BUT SIGNIFICANTLY HIGHER ON THE ANXIETY SCALE. RESULTS OF TESTING IN VERBAL DEVELOPMENT INDICATED THAT NAVAJO STUDENTS ARE OPERATING AT A LOWER LEVEL OF CONCEPT FORMATION THAN THEIR NON-NAVAJO PEERS. INTERVIEWS WITH NAVAJO STUDENTS TO DETERMINE INTERACTION WITH THE DOMINANT CULTURE INDICATED THAT THIS FACTOR ALSO INFLUENCES THE ACHIEVEMENT OF NAVAJO STUDENTS. IT WAS CONCLUDED, HOWEVER, THAT READING ABILITY IS THE FACTOR THAT EXERTS THE MOST INFLUENCE OVER THE ACADEMIC ACHIEVEMENT OF NAVAJO STUDENTS. (JS)

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EDUCATIONAL ACHIEVEMENT AND THE NAVAJO

Robert Melville and John Haas

"The most oppressed race in the United States!" (Roucek) This could refer to several minority racial groups, but it most accurately describes the American Indian. Negroes and orientals in the United States have at least taken on the trappings of American culture, even though confined to ghettoes. The American Indian is ostracized (in the literal sense of the Greek term) by the convenient use of the "reservation concept." Exceptions are those Indians who live off the reservation, and these tend to cluster in ghettoes as do members of most minority ethnic groups.

Although general welfare programs and equal opportunity laws are necessary to maintain the American Indian and to improve his lot, most Indian leaders are agreed that education is the long-range answer to their problems. Education is needed so that larger and larger percentages of Indians <u>can</u> find useful and purposeful lives on and away from the reservations.

"The whole history of the efforts of the Federal Government to 'educate' the Indians is rather sordid, since the Federal Bureau of Indian Affairs has often failed to interest the Indians in education and self-improvement and has come to be looked upon as a 'father figure' which would solve the Indians' problems." (Roucek, p. 247).

The culture of the Navajo Indian like that of many other Indian groups today, is in a state of transition. This transition is one of accommodation ---accommodation to the larger American culture, economy (as opposed to the reservation economy which is a compromise between agrarian

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RC 001764

poverty and welfare-statism), and values.

In recent years, hoping to hasten and ease the transition from traditional Navajo culture to the dominant American culture, there has been a renewed thrust for quality education for the Navajo people. One phase of this thrust in Navajo Indian education can be observed in the schools of Monroe and Richfield, Utah, where 125 Navajo Indian students are educated each year through a contract between the Sevier School District of Richfield, Utah, and the Bureau of Indian Affairs, United States Department of the Interior.

Each fall, the Navajo students are collected on the reservation and transported to dormitories in Richfield, Utah. These students return year after year until either graduation from high school is achieved or they drop out and return to the reservation. In recent years a larger proportion of these students are on the secondary level, mainly because elementary schools have been set up on the reservation to provide more and more students with at least a sixth grade education. The Navajo education program in the Sevier School District is but one part of the "Navajo Bordertown Dormitory Program". In addition to several of these programs in Utah, there are others in bordertowns in Arizona and New Mexico.

In an attempt to appraise the success of the "Navajo Bordertown Dormitory Program" in the Sevier School District a study was devised to investigate those factors which might be expected to enhance and/or retard the educational achievement of the Navajo students enrolled in the program. The crucial question seemed to be: What are the factors which tend to enhance or retard the

educational growth of Navajo students in the Sevier program as compared to non-Navajo students in the same district? Since achievement is the chief measure of educational growth in the public schools of America, this was taken as the yardstick for the success or failure of the education of Navajo Indian youth. Taking achievement as the measure of growth, what factors could be hypothesized as having affected this growth? The following seven factors seemed to be most directly related to achievement: 1) mental ability, 2) reading ability, 3) anxiety, 4) self-concept, 5) achievement motive, 6) verbal concept choice, and 7) interaction with the dominant culture. While not always conclusive, there was evidence in the literature that these seven factors do have an effect on the academic achievement of school students. However, most of the evidence applied to the general school population; that is, not to minority ethnic groups such as Indians.

Subjects in the study comprised Navajo and non-Navajo students in grades seven through twelve in four secondary schools in the Sevier School District, Utah. There were 97 Navajo students in grades seven through twelve who were part of the Navajo Bordertown Dormitory Program. In the same schools 848 non-Navajo subjects were used. The instruments used for collection of data were the following:

1. Academic achievement - California Achievement Test
2. Mental Ability - California Achievement Test of Mental Maturity, Short Form
3. Reading Ability - California Achievement Test, Reading Sub-test
4. Level of anxiety - Taylor Manifest Anxiety Scale

5. Verbal concept choice - An instrument devised by Stone (Stone, 1946), which is basically a vocabulary test consisting of thirty-four words. For each word there is a choice of six definitions - two correct and four incorrect. The subject indicates his choice of the best definition. One of the two correct definitions is the higher in conceptual level, thus, level of verbal concept choice is based on which of the two correct definitions the subject chooses for each of the thirty-four words.

6. Self-concept - California Psychological Inventory, Scales Cs (Capacity for Status), Sp (Social Presence), and Sa (Self-Acceptance). Mean score of the three scale scores is self-concept score.

7. Achievement motivation - California Psychological Inventory, Scale Ai (Achievement-via-Independence). In addition to the CPI, McClelland's (1953) projective measure of achievement motivation was also used for Navajo subjects and a similarly sized random sample of non-Navajo subjects.

8. Interaction with the dominant culture - Data obtained through interviews with a random sample of Navajo students.

Differences between Navajo and non-Navajo students for the factors hypothesized as having an effect on academic achievement were determined by analysis of variance. The F-test was used to determine the significance of the differences between the mean scores of the two groups. Data for verbal concept choice were treated separately.

The results of the analysis of data indicated that the non-Navajo students are achieving at a significantly (.01 level of confidence) higher level than Navajo students. This research study hypothesized that several factors affect this difference in achievement. For the factors of mental ability, reading ability, level of anxiety, self-concept, and achievement motivation, a significant (.01 level) difference in mean scores between Navajo and non-Navajo students exists and in all cases the difference favors the non-Navajo students. Non-Navajo students achieve at a higher level, have greater measured mental ability,

read significantly better, have a lower level of anxiety, have a higher self-concept level, and are more motivated to achieve in school than their Navajo peers.

Verbal concept choice as a factor was measured by recording student preferences and responses for each grade level. Individual preferences were converted into preference ratios. Realizing that knowledge of definitions could influence student preferences, a count of students knowing one and two definitions of a given word-concept was made. It was found that knowledge of more than one definition for a word-concept increases with age. For example, while only 29% of the seventh grade Navajo students knew "servant" as a definition for "boy", 64% of the eleventh grade Navajo students knew this definition. On the other hand, 93% of both seventh and eleventh grade Navajo students knew "youth" as a definition of "boy". Clearly, more eleventh graders than seventh graders knew both definitions.

Also, there was evidence that students who knew both definitions tended to choose the one nearest their concept level. Among non-Navajo seventh graders, 86% knew both "bent" and "arched" as definitions for "curved". Even though knowledge of the two definitions was equal, a large majority of this group of students chose "bent" as the best definition. This was also the case with eleventh grade Navajo students. Choice of definition is more closely related to "concept level" than knowledge of definitions.

Several differences between the two student groups were found. Non-Navajo students more often than Navajo students chose the more "concrete" definition in the seventh grade but later preferred the more "abstract" or "complex" definition. For example, in the case

of the word-concept "boy", the definition "servant" is the more abstract or complex and the definition "youth" is the more commonplace or concrete. For the word-concepts "curved", "picture", and "serve", the Navajo students persisted in choosing the more concrete definitions, while the non-Navajo students switched from the concrete to the abstract.

Trends toward the more abstract definitions were more noticeable among non-Navajo students. The words "not clear" and "trust" are examples. The data for these two words suggest that the Navajo students persist in preferring the concrete definitions while non-Navajo students would switch to the more abstract definitions.

For the most part, Navajo students tended to vacillate more between two definitions, and to cling to definitions from one grade level to the next. Seldom did Navajo students prefer abstract definitions at any grade level, and seldom was there any "switch-over" from concrete to abstract from one grade level to the next.

In order to investigate possible relationships between academic achievement and the several factors suggested as having an effect on that achievement, zero order and fourth order partial correlations were computed for both Navajo and non-Navajo sub-samples. Zero order, Pearson product moment correlations, are presented in Table 1, and the fourth order partial correlations are depicted in Table 2.

For Navajo students a fairly strong positive relationship existed between achievement and mental ability. The lower partial correlation could be indicative of the significance of reading ability to performance on both the mental ability and achievement tests. For non-Navajo students a +.005 correlation between mental ability and achievement was found when the effects of the other factors were held

Table 1. Pearson product moment correlations between academic achievement and selected factors.

Group	Mental ability	Reading ability	Level of anxiety	Self-concept	Achievement motivation
Navajo students	.56**	.83**	-.05	-.04	-.07*
Non-Navajo students	.60**	.84**	-.05	.30**	.30**

* Significant at .05 level of confidence
** Significant at .01 level of confidence

Table 2. Fourth order partial correlations between academic achievement and selected factors.[a]

Group	Mental ability	Reading ability	Level of anxiety.	Self-concept	Achievement motivation
Navajo students	.36	.77	-.04	-.14	-.006
Non-Navajo students	.005	.71	.05	.08	.10

[a] For each partial correlation the four remaining factors are held constant.

constant. This extreme reduction of correlation (from +.60 to +.005) undoubtedly reflects the significance of reading ability for the non-Navajo student.

The extremely high correlations of .83 and .84 between reading ability and academic achievement were partially due to the common variance between the reading test and the achievement test since the reading test comprised one third of the achievement test. When other factors were held constant, the .77 and .71 partial correlations indicate the high degree to which reading ability contributes to performance on achievement tests. Thus, the better the student can read, the higher he will score on the mental ability and achievement tests. The results of this research confirm that reading is still the single most important contributing factor to academic success.

For the factor, level of anxiety, there was no significant relationship between this factor and academic achievement for either Navajo or non-Navajo students. Since the Navajo students were the more anxious of the two groups, it is surprising that a higher negative correlation was not obtained for these students.

The self-concept factor appeared to neither facilitate nor retard the achievement of Navajo students. For non-Navajo students, the positive correlation of .30 indicates strong positive feelings about one's self and are related to academic achievement. These correlations could reflect the importance of self-enhancing activities to the non-Navajo student, while the Navajo student either avoids or is rejected in these same activities. An improved self-concept for non-Navajo students is reflected in a higher level of achievement. However, this "chain reaction process" does not seem to operate for

the Navajo.

A positive and significant correlation between achievement motivation and academic achievement exists for the non-Navajo students. The correlation for the Navajo students is negative and significant only at the .05 level. The correlation for Navajo students seems to indicate an indifferent or negligible relationship of achievement motivation to academic achievement. This could be the result of the achievement motive measure used; however, motivation to achieve individually has not been a traditional characteristic of the Navajo people. A study by Gill and Spilka (1962) seems to shed some light on these correlations. They concluded that independent initiative is not a characteristic of lower socio-economic groups. For these groups, success or failure is less personalized and there was little striving to achieve unless that achievement involved a meaningful material reward such as employment. If this is the case, Navajo students are probably not motivated in school because there is lack of a material reward, whereas, for non-Navajo students, a letter grade or praise from parents and teachers is sufficient to motivate them to achieve.

The partial correlations between achievement motivation and academic success are considerably different from the zero order correlations. This suggests that the achievement motive is somewhat dependent on one or more of the other factors - probably reading ability. For example, Navajo students may have a low motive to achieve in the school setting because they are aware of the persistent problems they encounter in reading.

Additional data on the achievement motive was obtained by administering the device developed by McClelland and others (1953) to all the Navajo students and to a similarly sized, randomly selected group of non-Navajo students. On the basis of responses to this projective instrument, students were divided into high or low achievement motive groups. By use of bi-serial correlations, it was found that for both Navajo and non-Navajo groups there is a positive relationship between the achievement motive and academic success. This tended to corroborate the observation that the achievement motive is a relatively significant factor in achievement.

The results of interviews with Navajo students to determine interaction with the dominant culture indicate it is likely that this factor influences the achievement of Navajo students. Several things probably contribute to this relationship. The opportunity, need, and pressure to learn English is greater in a bordertown public school than in the traditional Navajo environment present on the reservation. Also, the Navajo students gain if they can converse fluently with fellow students, teachers, employers, and merchants representing the dominant culture. The acquisition of verbal skills undoubtedly increases the likelihood of improved reading skills. Furthermore, extensive exposure to the dominant culture might also result in greater determination to achieve. The student may come to see a connection between academic success, placement in rewarding employments, and the accumulation of material goods and comforts.

The study reported here was conducted for the purpose of identifying those factors which tended to enhance or retard the educational achievement of Navajo Indian students. For the factors of mental

ability, reading ability, level of anxiety, self-concept, and achievement motive there were significantly large differences between the Navajo students and the non-Navajo students with whom they attended classes. Navajo students scored significantly lower than non-Navajo students on measures of mental ability, self-concept, and achievement motive, but significantly higher on the anxiety scale. For each factor the difference between the means of the two groups was significant beyond the .01 level of confidence.

Results of the Verbal Concept Choice Inventory (VCCI), though not subjected to statistical analysis, indicated that Navajo students more often than non-Navajo students initially selected and stayed with word definitions judged to be the more concrete. There were few instances of Navajo students showing any tendency toward selecting the more abstract definitions. This data indicates that Navajo students are operating at a lower level of conceptualization than their non-Navajo peers.

Correlations showed that mental ability, reading ability, and interaction with the dominant culture were significantly related to the academic achievement of Navajo students. When the relationships found for Navajo students were compared with non-Navajo students, the notable differences were the roles of the self-concept and the achievement motive. These two factors were significantly related to the academic achievement of the non-Navajo student; in addition to reading ability and mental ability.

On the basis of data obtained through this study, it may be concluded that reading ability is <u>the</u> factor that exerts the most influence over the academic achievement of Navajo students. Regardless of other attributes that Navajo students may or may not have, reading ability seems to be the chief factor in enhancing or retarding achievement

This was not the case with the non-Navajo students whose academic success seems to be related to other factors as well as reading ability.

One purpose of Navajo education is preparation for successful living within the larger national culture. Evidence from this study suggests that this objective can be facilitated if Navajo students can enjoy a variety of exposures to the dominant culture. Since Navajo students are achieving at a lower level than non-Navajo students, and lower than the student sample used for national norms, it would seem desirable that innovations should be attempted to promote the reading ability of these students since this appears to be the key factor in their achieving academic success - success which opens the doors to opportunities in American society.

We know far too little about the role which education plays in the lives of those who live on the "fringes" of our society. What is the best way to improve the lot of America's minority groups? For the oppressed, what can be justly expected from education?

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